WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Tyco Fire Products LP

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility

located at

One Stanton Street, Marinette, Wisconsin

to the

Menominee River (Wausaukee and Lower Menomonee River Watersheds, Menominee River Basin) in Marinette County

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Adrian Stocks
Director, Bureau of Water Quality

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE – December 1, 2020 **EXPIRATION DATE – November 30, 2025**

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
703	At Sampling Point 703, the permittee shall take representative samples of the Menominee River intake water prior to use at the facility. The Menominee River intake is located in Building B86 at 45° 5' 58.2828" N 87° 36' 56.0412" W.
704	At Sampling Point 704, the permittee shall take representative samples of the influent (contaminated groundwater) to the groundwater collection and treatment system (GWCTS).

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 703 - Menominee River Intake

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Daily	Total Daily	
Arsenic, Total Recoverable		µg/L	Monthly	Grab	See permit sections 3.9 and 5.2 for more information.
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See permit sections 3.8 and 5.1 for more information.

1.2.1.1 CWIS - Authority to Operate and Description

The permittee shall at all times properly operate and maintain the Menominee River intake system. The permittee shall give advance notice to the Department of any planned changes in the location, design, operation, or capacity of the intake structure. The permittee is authorized to use the Menominee River water intake system as described in the fact sheet.

1.2.1.2 Water Intake BTA (Best Technology Available) Determination

The Department believes that the Menominee River water intake, as described above in subsection 1.2.1.1, represents BTA for minimizing adverse environmental impact in accordance with the requirements in s. 283.31(6), Wis. Stats. and section 316(b) of the Clean Water Act.

1.2.1.3 Future BTA for Water Intake Structure

BTA determinations for entrainment and impingement mortality at water intake structures will be made in each permit reissuance, in accordance with s. 283.31(6), Wis. Stats. However, if the design intake flow (DIF) exceeds 2 MGD and

the permittee uses greater than 25% of intake water exclusively for cooling, BTA determinations for entrainment mortality and impingement mortality will be made in accordance with ss. NR 111.12-13, Wis. Adm. Code and the permittee will be required to submit all the required information in s. NR 111.40(2)(b), Wis. Adm. Code with the permit application.

1.2.1.4 Intake Screen Discharges and Removed Substances

Floating debris and accumulated trash collected on the water intake trash rack shall be removed and disposed of in a manner to prevent any pollutant from the material from entering the waters of the State pursuant to s. NR 205.07(3)(a), Wis. Adm. Code, except that backwashes may contain fine materials that originated from the intake water source such as sand, silt, small vegetation or aquatic life.

1.2.1.5 Endangered Species Act

Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act.

1.2.2 Sampling Point 704 - GWCTS Influent

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Daily	Continuous	
Arsenic, Total Recoverable		µg/L	Weekly	24-Hr Flow Prop Comp	See permit sections 3.9 and 5.2 for more information.
Suspended Solids, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	See permit sections 3.8 and 5.1 for more information.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
101	At Sampling Point 101, the permittee shall take representative samples of the treated metal finishing process wastewater after the physical chemical process wastewater treatment system prior to mixing with other wastewater streams and discharging through Outfall 001. On October 1, 2022, treated metal finishing process wastewater will be diverted to Outfall 004.
107	At Sampling Point 107, the permittee shall collect a field blank for each day a mercury is sample is collected.
108	At Sampling Point 108, the permittee shall take representative samples of the final treated effluent from the groundwater collection and treatment system (GWCTS) prior to mixing with the treated metal finishing effluent and discharging through Outfall 004 to the Menominee River. Sampling is required when there is a discharge through this Sampling Point during any month.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - Metal Finishing Effluent

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
Suspended Solids, Total	Daily Max	60 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	31 mg/L	3/Week	24-Hr Flow Prop Comp	
Oil & Grease (Hexane)	Daily Max	52 mg/L	Monthly	Grab	
Oil & Grease (Hexane)	Monthly Avg	26 mg/L	Monthly	Grab	
Cadmium, Total Recoverable	Daily Max	690 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Monthly Avg	260 µg/L	Monthly	24-Hr Flow Prop Comp	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Copper, Total Recoverable	Daily Max	3,380 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Monthly Avg	2,070 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Daily Max	3,980 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Monthly Avg	2,380 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Daily Max	2,610 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Monthly Avg	1,480 µg/L	Monthly	24-Hr Flow Prop Comp	
Total Toxic Organics	Daily Max	2,130 µg/L	Monthly	24-Hr Flow Prop Comp	See permit section 2.2.1.4 for more information.
Chromium, Total Recoverable	Daily Max	2,770 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Monthly Avg	1,710 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Daily Max	690 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Monthly Avg	430 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Silver, Total Recoverable	Daily Max	430 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Silver, Total Recoverable	Monthly Avg	240 µg/L	1/ 6 Months	24-Hr Flow Prop Comp	
Cyanide, Total	Daily Max	1,200 µg/L	1/ 6 Months	Grab	
Cyanide, Total	Monthly Avg	650 µg/L	1/ 6 Months	Grab	
Mercury, Total Recoverable		ng/L	Monthly	Grab	Monitoring Only. See permit sections 3.8 and 5.1 for more information.
Mercury, Total Recoverable		mg/day	Monthly	Calculated	
Arsenic, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only. See permit sections 3.9 and 5.2 for more information.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Arsenic, Total Recoverable		lbs/day	Monthly	Calculated	
pH (Continuous)			Daily	Continuous	See permit section 2.2.1.2 for more information.

2.2.1.1 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

2.2.1.2 Continuous pH Monitoring

The permittee shall maintain the pH of the discharge within the range of 6.0 to 9.0 standard units (s.u.) except excursions are permitted subject to the following conditions:

- The pH is monitored continuously;
- The total time during which the pH is outside the range of 6.0 to 9.0 s.u. shall not exceed 446 minutes in any calendar month;
- No individual pH excursion outside the range of 6.0 to 9.0 s.u. shall exceed 60 minutes in duration;
- No individual pH excursion shall be outside the range of 4.0 to 11.0 s.u.; and
- On a daily basis, the permittee shall report the minimum and maximum pH, the total time that the pH is outside the range of 6.0 to 9.0 s.u., and the number of pH excursions outside the range of 6.0 to 9.0 s.u. that exceed 60 minutes in duration.

2.2.1.3 Flow Augmentation

The permittee may not augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with the above effluent limitations in Section 2.2.1 for Sampling Point 101.

2.2.1.4 Toxic Organics Requirements

2.2.1.4.1 TTO Summation

Total Toxic Organics (TTO) means the sum of all quantifiable effluent concentrations greater than 10 ug/L of the toxic organic pollutants listed in ss. NR 215.03(1)-(5), Wis. Adm. Code.

2.2.1.4.2 Identified Toxic Organics

If monitoring is necessary to measure compliance with the TTO standard, the permittee need only analyze for those pollutants which would reasonably be expected to be present in the discharge.

2.2.1.4.3 Process Modification/Planned Changes

Use of a toxic organic that is listed in ss. NR 215.03(1)-(5), Wis. Adm. Code, and that has the potential for entering wastewaters discharged, is classified by the Department as a process modification. The permittee shall report such process modifications in accordance with the Standard Requirements section herein (see "Planned Changes" in the "System Operating Requirements" subsection of Standard Requirements) and include the toxic organic when monitoring TTO.

2.2.1.4.4 Certification in Lieu of Monitoring for Total Toxic Organics

The permittee may demonstrate compliance with the total toxic organics (TTO) monitoring and limitations in Section 2.2.1 if the permittee meets the requirements of this section. The permittee is not required to monitor for TTO and other TTO parameters at Sampling Points 101 if the permittee continues to comply with the following conditions:

1. The permittee continues to implement their toxic organic management plan; and
2. The permittee makes a TTO certification statement monthly on the Discharge Monitoring Report form, in accordance with s. 261.13(1)(a), Wis. Adm. Code, that states the following:

   Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the Department of Natural Resources.

If the permittee elects to not follow the TTO certification requirements or does not meet the TTO certification requirements stated in this section, the permittee shall comply with the TTO monitoring listed in Section 2.2.1.

2.2.1.4.5 Toxic Organic Management Plan

The permittee shall prepare and implement a toxic organic management plan to remain eligible for the certification option in Section 2.2.1.4.4 for TTO monitoring as specified in s. NR 261.13(b), Wis. Adm. Code. The toxic organics management plan shall specify procedures and practices to meet the requirements of this section.

2.2.1.4.5.1 Toxic Organic Management Plan Content

The toxic organic management plan shall include at least the following information:

1. The toxic organic compounds used;
2. The method of disposal used instead of dumping (i.e. reclamation, contract hauling, or incineration); and
3. Procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater.

2.2.1.4.5.2 Operate Consistent to an Approved Toxic Organic Management Plan

The permittee shall submit the toxic organic management plan to the department for approval. The permittee shall operate consistent with the department approved toxic organic management plan.

2.2.1.4.5.3 Amendment of the Toxic Organic Management Plan

The permittee shall amend its toxic organic management plan whenever there is a change in the use of toxic organic pollutants or operational changes that affects the potential for leaks or spills of toxic organic compounds into wastewaters. The amended management plan shall be submitted by written request to the department for approval.

2.2.1.4.5.4 Review and Certification of the Toxic Organic Management Plan

The toxic organic management plan, and any amendments thereto, shall be reviewed by the senior technical manager at the facility and approved and signed by the facility authorized representative. Any person signing the management plan, or its amendments shall certify to the department that the management plan or its amendments have been prepared in accordance with good engineering practices.

2.2.1.4.5.5 Record Keeping Requirements

The permittee shall maintain on the facility premises an official copy of the current management plan and allow employee access to the plan. The permittee shall make the plan available to the department for inspection or review upon request.

2.2.1.4.5.6 Employee Training

The permittee shall provide training to new employees and refresher training to existing employees on the toxic organic management plan.

2.2.2 Sampling Point 107 - Mercury Field Blank Results

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Monthly	Blank	See permit section 2.2.2.1 for more information.

2.2.2.1 Field Blank Sampling and Monitoring

If more than one mercury sample is collected in a day, the permittee shall collect at least one field blank for each 10 mercury samples collected on that day. The permittee shall report, but may not subtract, field blank concentrations when reporting mercury sample results.

2.2.3 Sampling Point 108 - GWCTS Effluent

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
Suspended Solids, Total		mg/L	Weekly	24-Hr Flow Prop Comp	Monitoring Only.
Arsenic, Total Recoverable	Daily Max	500 µg/L	Weekly	24-Hr Flow Prop Comp	This is an interim variance limit. See permit sections 3.9 and 5.2 for more information.
Arsenic, Total Recoverable	Daily Max	0.17 lbs/day	Weekly	Calculated	This is an interim variance limit. See permit sections 3.9 and 5.2 for more information.
Mercury, Total Recoverable	Daily Max	24 ng/L	Monthly	24-Hr Flow Prop Comp	This is an interim variance limit. See permit sections 3.8 and 5.1 for more information.
Mercury, Total Recoverable		mg/day	Monthly	Calculated	
PFOA		ng/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.
PFOS		ng/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.

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2.2.3.1 Activation Date

Sampling Point 108 will become active on December 1, 2022 unless the permittee completes the diversion and combination of process wastewater from Sampling Point 101 with Outfall 003 to form Outfall 004 and Sampling Point 108 at an earlier date. In this case, the permittee shall comply with the monitoring requirements and effluent limitations listed Section 2.2.3 immediately when discharge through Sampling Point 108 commences.

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	At Sampling Point 001, the permittee shall take representative samples of the combined discharge of treated metal finishing process wastewater from Sampling Point 101, noncontact cooling water (NCCW), boiler blowdown, groundwater infiltration, and stormwater from roof drains prior to discharge to the Menominee River via Outfall 001. Outfall 001 is located along the south bank of the Menominee River near the boiler house at 45° 5' 54.42" N 87° 36' 44.4024" W. On December 1, 2022, the treated metal finishing process wastewater from Sampling Point 101 will be diverted to Outfall 004 and noncontact cooling water (NCCW) and boiler blowdown will be diverted to the City of Marinette sanitary sewer system. Stormwater from roof drains will conveyed over the land surface to the Menominee River. Outfall 001 will be deactivated on December 1, 2022.
003	At Sampling Point 003, the permittee shall take representative samples of the final treated effluent from the groundwater collection and treatment system (GWCTS) prior to discharge to the Menominee River via Outfall 003. Outfall 003 is located along the southern bank of the Menominee River near Building 14 on the northwest side of the property at 45° 5' 58.4088" N 87° 36' 54.522" W. On December 1, 2022, the treated metal finishing process wastewater from Sampling Point 101 will be combined with the GWCTS effluent from Sampling Point 108 and diverted to Outfall 004. Outfall 003 will be deactivated on December 1, 2022.
004	At Sampling Point 004, the permittee shall take representative samples of the combined discharge of treated metal finishing wastewater (Sampling Point 101) and treated groundwater (Sampling Point 108) prior to discharge to the Menominee River via Outfall 004. Sampling is required when there is a discharge from this outfall during any month.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 001 - Combined WW to Menominee River

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
pH Field	Daily Max	9.0 su	Daily	Continuous	
pH Field	Daily Min	6.0 su	Daily	Continuous	
Temperature Maximum		deg F	Weekly	Measure	Monitoring Only. See permit section 3.5 for more information.
Hardness, Total as $CaCO_3$		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only. See permit section 3.3 for more information.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Arsenic, Total Recoverable	Daily Max	170 µg/L	Monthly	24-Hr Flow Prop Comp	This is an interim compliance schedule limit effective until November 30, 2022. See permit sections 3.9 and 5.6 for more information.
Arsenic, Total Recoverable	Daily Max	0.81 lbs/day	Monthly	Calculated	This is an interim compliance schedule limit effective until November 30, 2022. See permit sections 3.9 and 5.6 for more information.
Cadmium, Total Recoverable	Daily Max	57 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Monthly Avg	57 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Daily Max	0.27 lbs/day	Monthly	Calculated	
Copper, Total Recoverable	Daily Max	69 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Monthly Avg	69 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Daily Max	0.98 lbs/day	Monthly	Calculated	
Cyanide, Amenable	Daily Max	92 µg/L	Monthly	24-Hr Flow Prop Comp	
Cyanide, Amenable	Monthly Avg	92 µg/L	Monthly	24-Hr Flow Prop Comp	
Cyanide, Amenable	Daily Max	0.44 lbs/day	Monthly	Calculated	
Chlorine, Total Residual	Daily Max	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
Chlorine, Total Residual	Monthly Avg	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
Mercury, Total Recoverable	Daily Max	29 ng/L	Monthly	Grab	This is an interim compliance schedule limit effective until November 30, 2022. See permit sections 3.8 and 5.7 for more information.
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	1/ 2 Months	24-Hr Flow Prop Comp	
PFOA		ng/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.
PFOS		ng/L	Monthly	24-Hr Flow Prop Comp	See permit section 5.5 for more information.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PFOS		mg/day	Monthly	Calculated	See permit section 5.5 for more information.
Acute WET	Daily Max	1.0 TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See permit section 3.6 for more information.

3.2.1.1 Deactivation Date

Outfall 001 will be deactivated on December 1, 2022.

3.2.2 Sampling Point (Outfall) 003 - GWCTS Effluent

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
pH Field	Daily Max	9.0 su	Daily	Continuous	
pH Field	Daily Min	6.0 su	Daily	Continuous	
Arsenic, Total Recoverable	Daily Max	680 µg/L	Weekly	24-Hr Flow Prop Comp	This is an initial effluent limitation effective until November 30, 2022. See permit sections 3.9, 5.2, and 5.3 for more information.
Arsenic, Total Recoverable	Daily Max	0.23 lbs/day	Weekly	Calculated	This is an initial effluent limitation effective until November 30, 2022. See permit sections 3.9, 5.2, and 5.3 for more information.
Suspended Solids, Total		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.
Mercury, Total Recoverable	Daily Max	24 ng/L	Monthly	24-Hr Flow Prop Comp	This is an interim variance limit effective until November 30, 2022. See permit sections 3.8 and 5.1 for more information.
Hardness, Total as $CaCO_3$		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.
Chlorine, Total Residual	Daily Max	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
Chlorine, Total Residual	Monthly Avg	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
PFOA		ng/L	Weekly	24-Hr Flow Prop Comp	Monitoring Only.
PFOS		ng/L	Weekly	24-Hr Flow Prop Comp	See permit section 5.5 for more information.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PFOS		mg/day	Weekly	Calculated	See permit section 5.5 for more information.
Acute WET	Daily Max	1.0 TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See permit section 3.6 for more information.

3.2.2.1 Deactivation Date

Outfall 003 will be deactivated on December 1, 2022.

3.2.3 Sampling Point (Outfall) 004 - Combined Process WW & GW

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
pH Field	Daily Max	9.0 su	Daily	Continuous	
pH Field	Daily Min	6.0 su	Daily	Continuous	
Chlorine, Total Residual	Daily Max	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
Chlorine, Total Residual	Monthly Avg	38 µg/L	Monthly	Grab	Must be analyzed within 15 minutes of sample collection.
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	1/ 2 Months	24-Hr Flow Prop Comp	
Arsenic, Total Recoverable	Daily Max	194 µg/L	Monthly	24-Hr Flow Prop Comp	This is an interim variance limit. See permit sections 3.9 and 5.2 for more information.
Arsenic, Total Recoverable	Daily Max	0.22 lbs/day	Monthly	Calculated	This is an interim variance limit. See permit sections 3.9 and 5.2 for more information.
Mercury, Total Recoverable	Daily Max	18 ng/L	Monthly	Grab	This is an interim variance limit. See permit sections 3.9 and 5.1 for more information.
Mercury, Total Recoverable		mg/day	Monthly	Calculated	
Cadmium, Total Recoverable	Daily Max	57 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Monthly Avg	57 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Daily Max	0.23 lbs/day	Monthly	Calculated	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Copper, Total Recoverable	Daily Max	69 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Monthly Avg	69 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Daily Max	0.28 lbs/day	Monthly	Calculated	
Nickel, Total Recoverable	Daily Max	2,000 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Monthly Avg	2,000 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Daily Max	8.1 lbs/day	Monthly	Calculated	
Zinc, Total Recoverable	Daily Max	520 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Monthly Avg	520 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Daily Max	2.1 lbs/day	Monthly	Calculated	
Cyanide, Amenable	Daily Max	92 µg/L	Monthly	24-Hr Flow Prop Comp	
Cyanide, Amenable	Monthly Avg	92 µg/L	Monthly	24-Hr Flow Prop Comp	
Cyanide, Amenable	Daily Max	0.37 lbs/day	Monthly	Calculated	
Hardness, Total as $CaCO_3$		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only. See permit section 3.3 for more information.
Temperature Maximum		deg F	Weekly	Measure	Monitoring Only. See permit section 3.5 for more information.
PFOA		ng/L	Monthly	24-Hr Flow Prop Comp	Monitoring Only.
PFOS	Daily Max	11 ng/L	Monthly	24-Hr Flow Prop Comp	
PFOS	Monthly Avg	11 ng/L	Monthly	24-Hr Flow Prop Comp	
PFOS	Monthly Avg	2.1 mg/day	Monthly	Calculated	
Acute WET	Daily Max	1.0 TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See permit section 3.6 for more information.

3.2.3.1 Activation Date

Outfall 004 will become active on December 1, 2022 unless the permittee completes the diversion and combination of process wastewater from Sampling Point 101 with Outfall 003 to form Outfall 004 at an earlier date. In this case, the permittee shall comply with the monitoring requirements and effluent limitations listed Section 3.2.3 immediately when discharge through Outfall 004 commences.

3.3 Total Hardness Sampling

Total hardness analysis shall be performed on the same sample as total recoverable cadmium, total recoverable copper, total recoverable nickel, and total recoverable zinc.

3.4 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

3.5 Effluent Maximum Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. Report the maximum temperature measured during the day on the eDMR. For more information see the Standard Requirements section in this permit.

3.6 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Menominee River

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.

WET Testing Frequency:

Outfall 001:

- **Acute** tests shall be conducted twice each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters:

Quarters	Year
2nd (April – June)	2021
4th (October – December)	2021
1st (January – March)	2022
3rd (July – September)	2022

Outfall 003:

- **Acute** tests shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters:

Quarters	Year
2nd (April – June)	2021
3rd (July – September)	2022

Outfall 004:

- **Acute** tests shall be conducted twice each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters:

Quarters	Year
1st (January – March)	2023
3rd (July – September)	2023
2nd (April – June)	2024
4th (October – December)	2024
1st (January – March)	2025
3rd (July – September)	2025

- **WET Testing After Permit Expiration:** Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in the following quarters:

Quarters	Year
2nd (April – June)	2026
4th (October – December)	2026

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90-day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

3.7 Water Treatment Additives

The permittee shall maintain a record of the dosage rate of all water treatment additives used on a monthly basis. The additives may be changed during the term of the permit following procedures in the 'Additives' subsection of the Standard Requirements.

3.8 Mercury Variance – Implement Pollutant Minimization Plan

This permit contains variances to the water quality-based effluent limit (WQBEL) for mercury granted in accordance with s. 283.15, Wis. Stats. As conditions of these variances the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement the mercury pollutant minimization measures specified below, (c) follow the Pollutant Minimization Plan and (d) perform the actions listed in the compliance schedule. (See the Schedules section herein):

1. Continue to monitor intake water from the Menominee River **quarterly** for low-level mercury at Sampling Point 703.
2. Continue to monitor influent to the groundwater treatment system at least **monthly** for low-level mercury at Sampling Point 704.
3. Continue implementation of mercury equipment evaluation program including:
    a. Collection and recycling of light bulbs (fluorescent tubes, metal halide lamps, mercury vapor lights, and high-pressure sodium lights)
    b. Collection of certain types of batteries (lead/acid, nickel/cadmium, and lithium halide).
    c. Maintain an inventory of all known mercury containing devices.
    d. Continue the training program for Tyco employees on the proper handling and disposal of mercury containing devices.
    e. Replacement of mercury containing devices with mercury free or low-level mercury alternatives when practicable (e.g. replacement of facility lighting systems with LED light bulbs and sulfuric acid with food grade sulfuric acid).
4. Continue implementation of chemical screening program including:
    a. All new chemicals are screened by the Environmental Department prior to their purchase and use in the metal finishing facility. Screening includes a review of safety data sheet information, to determine the presence of unwanted chemical constituents, such as mercury. Based on this review, any chemicals containing reportable quantities of mercury are not allowed to be introduced into the facility for use.
    b. Test new chemicals proposed for metal finishing process to ensure they do not contain mercury or include certification from the manufacturer that the chemical does not contain mercury.
5. Continue Barrier Wall Groundwater Monitoring Plan (BWGMP) consistent with the RCRA consent order to prevent the migration of impacted groundwater to the outside watershed.
6. Continue maintenance and monitoring of site Phyto-transpiration system.
7. Continue recycling of treated process wastewater for facility water usage when practicable.
8. Continue maintenance and monitoring of designated cover areas over impacted soils and groundwater.
9. Continue maintenance and monitoring of underground piping to reduce impacted groundwater from leaving the site.
10. Complete upgrades and improvements to the existing groundwater treatment system to a 60 gpm system to enhance mercury removal by December 1, 2022. The upgrades will include:

a. Improvements to the oxidation/coagulation/precipitation processes
b. Two new Pall membrane microfiltration (MF) systems
c. Two new 30 gpm Pall triple pass reverse osmosis (RO) systems
d. Reconfiguration of vibratory shear enhanced processing (VSEP) system
e. Granular activated carbon and ion exchange process as final polishing step
f. Upgrades to the control system to manage flow rates at the site

11. Abandon Outfall 001 to eliminate infiltration and discharge of untreated groundwater from the underground industrial sewer system by December 1, 2022.
12. Continue to manage water levels in Salt Vault and 8th St. Slip areas of site to maintain an inward gradient and prevent potential exfiltration of groundwater from the site.
13. Complete the diversion of process wastewater and treated groundwater to Outfall 004, boiler blowdown and NCCW to the City of Marinette sanitary sewer system and divert roof drain runoff to surface conveyance to eliminate or reduce mercury contribution to the Menominee River as practicable, all by December 1, 2022.
14. Complete updates to boiler system to reduce intake of Menominee River water by December 1, 2021.
15. Implement tracking of the total annual volume and final disposal location of liquid wastes and sludges generated at the site that may contain mercury.
16. Evaluate new and existing water treatment technologies at least every 5 years, consistent with the RCRA consent order. If any are found to have improved on existing technology of treatment systems currently implemented, then conduct pilot testing and/or bench scale testing of treatment systems to determine if current treatment removal or efficiency can be enhanced in the fourth year of the permit.
17. Review operation of groundwater treatment system for flow total and removal efficiency quarterly and implement operational changes as needed to achieve remedial goals.
18. Implement and track the annual mass balance of mercury entering and leaving the site.

3.9 Arsenic Variance – Implement Pollutant Minimization Plan

This permit contains variances to the water quality-based effluent limit (WQBEL) for arsenic granted in accordance with s. 283.15, Wis. Stats. As conditions of these variances the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement the arsenic pollutant minimization measures specified below, (c) follow the Pollutant Minimization Plan and (d) perform the actions listed in the compliance schedule. (See the Schedules section herein):

1. Implement monitoring of intake water from the Menominee River **monthly** for arsenic.
2. Continue to monitor influent to the groundwater treatment system at least **weekly** for arsenic.
3. Continue Barrier Wall Groundwater Monitoring Plan (BWGMP) to prevent the migration of impacted groundwater to the outside watershed.
4. Continue maintenance and monitoring of site Phyto-transpiration system.
5. Continue maintenance and monitoring of designated cover areas over impacted soils and groundwater.
6. Continue maintenance and monitoring of underground piping associated with outfall discharges to reduce impacted groundwater from leaving the site.
7. Complete upgrades and improvements to the existing groundwater treatment system to a 60 gpm system to enhance arsenic removal by December 1, 2022. The upgrades will include:

a. Improvements to the oxidation/coagulation/precipitation processes
b. Two new Pall membrane microfiltration (MF) systems
c. Two new 30 gpm Pall triple pass reverse osmosis (RO) systems
d. Reconfiguration of vibratory shear enhanced processing (VSEP) system
e. Granular activated carbon and ion exchange process as final polishing step
f. Upgrades to the control system to manage flow rates at the site

8. Abandon Outfall 001 to eliminate infiltration and discharge of untreated groundwater from the underground industrial sewer system by December 1, 2022.
9. Continue to manage water levels in Salt Vault and 8th St. Slip areas of site to maintain an inward gradient and prevent exfiltration of groundwater from the site.
10. Complete the diversion of process wastewater and treated groundwater to Outfall 004, boiler blowdown and NCCW to the City of Marinette sanitary sewer system and divert roof drain runoff to surface conveyance to eliminate or reduce arsenic contribution to the Menominee River as practicable, all by December 1, 2022.
11. Complete updates to boiler system to reduce or eliminate intake of Menominee River water by December 1, 2021.
12. Implement tracking of the total annual volume and final disposal location of liquid wastes and sludges generated at the site that may contain arsenic.
13. Evaluate new and existing water treatment technologies at least every 5 years, consistent with EPA/RCRA consent order. If any are found to have improved on existing technology of treatment systems currently implemented, then conduct pilot testing and/or bench scale testing of treatment systems to determine if treatment removal or efficiency can be enhanced in the fourth year of the permit.
14. Review operation of groundwater treatment system for flow totals and removal efficiency quarterly and implement operational changes as needed to achieve remedial goals.
15. Implement and track the annual mass balance of arsenic entering and leaving the site.

4 Offsite Disposal Requirements

4.1 Sampling Point(s)

This section shall be limited to the waste type(s) designated in the listed sampling point(s) for offsite disposal.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
005	At Sampling Point 005, the permittee shall track the final disposal of cake sludge associated with the metal finishing process wastewater treatment system.
006	At Sampling Point 006, the permittee shall track the final disposal of cake sludge associated with the zinc bond treatment system.
007	At Sampling Point 007, the permittee shall track the final disposal of VSEP and/or RO reject water associated with the groundwater collection and treatment system (GWCTS).
008	At Sampling Point 008, the permittee shall track the final disposal of cake sludge associated with the groundwater collection and treatment system (GWCTS).

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations

4.2.1 Sampling Point (Outfall) 005 – Metal Finishing Cake Sludge; 006 – Zinc Bond Sludge; 007 – VSEP/RO Reject; and 008 – GWCTS Sludge

4.2.1.1 Landspreading or Discharge to Manure Pit(s) Approval

The permittee is not authorized under this permit to landspread any of the wastes associated with Outfalls 005, 006, 007, or 008 and is not authorized to store these wastes in manure storage structure(s).

4.3 Reporting and Recordkeeping Requirements

The permittee shall comply with the following reporting and recordkeeping requirements.

4.3.1 Annual Land Application Report

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

4.3.2 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not waste is hauled to another facility, landfilled, or incinerated. Following submittal

of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

4.3.3 Daily Disposal Log

The permittee shall maintain a daily disposal log of all waste(s) hauled to another facility, landfill, or incinerator for disposal.

5 Schedules

5.1 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality-based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented; Include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time. The first annual mercury progress report is to be submitted by the Due Date.	01/31/2021
Annual Mercury Progress Report #2: Submit a mercury progress report as defined above.	01/31/2022
Annual Mercury Progress Report #3: Submit a mercury progress report as defined above.	01/31/2023
Annual Mercury Progress Report #4: Submit a mercury progress report as defined above.	01/31/2024
Final Mercury Progress Report and Updated PMP Plan: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed updated PMP plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report.	01/31/2025
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury reports each year covering pollutant minimization activities implemented and mercury concentration trends.	

5.2 Arsenic Pollutant Minimization Program

As a condition of the variance to the water quality-based effluent limitation(s) for arsenic granted in accordance with s. 283.15, Wis. Stats., the permittee shall perform the following actions.

Required Action	Due Date
Implementation of Arsenic Pollutant Minimization Program: The permittee shall implement the arsenic pollutant minimization program as submitted or as amended by agreement of the permittee and the Department.	12/31/2020

Required Action	Due Date
Annual Arsenic Progress Report #1: The permittee shall submit to the Department an annual progress report that shall discuss which arsenic pollutant minimization measures have been implemented during the period from the permit effective date to the due date of the report. The report shall include an analysis of trends in monthly, quarterly, and annual total intake and effluent arsenic concentrations and mass discharge of arsenic based on sampling and flow data. The report shall also provide an update on the permittee's progress in implementing pollutant minimization measures, operational improvements, and facility modifications to optimize reductions in arsenic discharges. Submittal of the first annual process report is required by the Due Date.	01/31/2021
Annual Arsenic Progress Report #2: Submit an arsenic progress report as defined above.	01/31/2022
Annual Arsenic Progress Report #3: Submit an arsenic progress report as defined above.	01/31/2023
Annual Arsenic Progress Report #4: Submit an arsenic progress report as defined above.	01/31/2024
Final Arsenic Progress Report and Updated PMP Plan: Submit a final report documenting the success in reducing arsenic concentrations in the effluent, as well as the anticipated future reduction in arsenic sources and arsenic effluent concentrations. The report shall summarize arsenic pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent arsenic concentrations based on arsenic sampling during the current permit term. The report shall also include an analysis of how influent and effluent arsenic varies with time. If the permittee intends to reapply for an arsenic variance per s. 283.15, Wis. Stats., for the reissued permit, a detailed updated PMP plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report.	01/31/2025
Annual Arsenic Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual arsenic reports each year covering pollutant minimization activities implemented and arsenic concentration trends.	

5.3 Arsenic Interim Limits at SP 108 and Outfall 004

This compliance schedule requires the permittee to achieve compliance by the specified date.

Required Action	Due Date
Report on Effluent Discharges: Submit a report on arsenic concentrations and mass for Outfall 003 and Sampling Point 101 with conclusions regarding compliance at future In-Plant Sampling Point 108 and Outfall 004.	05/31/2021
Action Plan: Submit an action plan for complying with the interim arsenic variance limits. If construction is required, include plans and specifications with the submittal.	11/30/2021
Initiate Actions: Initiate actions identified in the plan.	05/31/2022
Complete Actions: Complete actions identified in the plan and achieve compliance with the interim arsenic variance limits at Sampling Point 108 and Outfall 004	11/30/2022

5.4 Total Toxic Organics Management Plan

The permittee shall submit an updated Total Organics (TTO) management plan as required by s. NR 216.13(1), Wis. Adm. Code.

Required Action	Due Date
Submit Updated TTO Plan: Submit an update to the TTO management plan to demonstrate compliance with requirements in this permit and ch. NR 261, Wis. Adm. Code.	02/28/2021

5.5 PFOS Limits

This compliance schedule requires the permittee to achieve compliance by the specified date.

Required Action	Due Date
Report on Effluent Discharges: Submit a report on effluent PFOS concentrations at Outfall 001, Outfall 003, and Sampling Point 101 with conclusions regarding compliance at future Outfall 004.	05/31/2021
Action Plan: Submit an action plan for complying with all effluent PFOS limits. If the action plan calls for treatment upgrades or installation, submit final construction plans and specifications to the Department for plan review.	11/30/2021
Initiate Actions: Initiate actions identified in the plan.	05/31/2022
Complete Actions: Complete actions necessary to achieve compliance with final PFOS limits.	11/30/2022

5.6 Arsenic Limit at Outfall 001

This compliance schedule requires the permittee to achieve compliance by the specified date

Required Action	Due Date
Report on Effluent Discharges: Submit a report on arsenic concentration with conclusions regarding compliance at Outfall 001.	05/31/2021
Action Plan: Submit an action plan for complying with the final arsenic limit if determined necessary by the Department. If the action plan calls for treatment upgrades or installation, submit final construction plans and specifications to the Department for plan review.	11/30/2021
Initiate Actions: Initiate actions identified in the plan.	05/31/2022
Complete Actions: Complete actions necessary to achieve compliance with the final arsenic limit.	11/30/2022

5.7 Mercury Limit at Outfall 001

This compliance schedule requires the permittee to achieve compliance by the specified date

Required Action	Due Date
Report on Effluent Discharges: Submit a report on mercury concentration with conclusions regarding compliance at Outfall 001.	05/31/2021
Action Plan: Submit an action plan for complying with the final mercury limit if determined necessary by the Department. If the action plan calls for treatment upgrades or installation, submit final construction plans and specifications to the Department for plan review.	11/30/2021
Initiate Actions: Initiate actions identified in the plan.	05/31/2022

Required Action	Due Date
Complete Actions: Complete actions necessary to achieve compliance with the final mercury limit.	11/30/2022

5.8 Permit Application Submittal

The permittee shall file an application for permit reissuance in accordance with NR 200, Wis. Adm. Code.

Required Action	Due Date
Permit Application Submittal: Submit a complete permit application to the Department no later than 180 days prior to permit expiration.	05/31/2025

6 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

6.1 Reporting and Monitoring Requirements

6.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

6.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD_5 and Total Suspended Solids shall be considered to be limits of quantitation

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

6.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

6.1.6 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

6.1.7 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

6.1.8 Mercury Sampling and Monitoring

The permittee shall collect and analyze all mercury samples according to the sampling and laboratory analysis requirements of ss. NR 106.145(9) and (10), Wis. Adm. Code. The permittee shall use an analytical method sensitive enough to have a limit of quantitation (LOQ) of less than 1.3 ng/L for the effluent and field blank samples, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports

6.2 System Operating Requirements

6.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003**.

6.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

6.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

6.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

6.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6.2.6 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

6.2.7 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

6.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

6.2.9 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

6.3 Surface Water Requirements

6.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

6.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

6.3.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

6.3.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

6.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

6.3.6 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months)} \times 8.34}$$

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

6.3.7 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

6.3.8 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.3.9 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.3.10 Reopener Clause

Pursuant to s. 283.15(11), Wis. Stat. and 40 CFR 131.20, the Department may modify or revoke and reissue this permit if, through the triennial standard review process, the Department determines that the terms and conditions of this permit need to be updated to reflect the highest attainable condition of the receiving water.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	19
Other Methods of Disposal or Distribution Report Form 3400-52	January 31, each year whether or not waste is hauled to another facility, landfilled, or incinerated	19
Mercury Pollutant Minimization Program -Annual Mercury Progress Reports	January 31, 2021	21
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #2	January 31, 2022	21
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #3	January 31, 2023	21
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #4	January 31, 2024	21
Mercury Pollutant Minimization Program -Final Mercury Progress Report and Updated PMP Plan	January 31, 2025	21
Mercury Pollutant Minimization Program -Annual Mercury Reports After Permit Expiration	See Permit	21
Arsenic Pollutant Minimization Program -Implementation of Arsenic Pollutant Minimization Program	December 31, 2020	21
Arsenic Pollutant Minimization Program -Annual Arsenic Progress Report #1	January 31, 2021	22
Arsenic Pollutant Minimization Program -Annual Arsenic Progress Report #2	January 31, 2022	22
Arsenic Pollutant Minimization Program -Annual Arsenic Progress Report #3	January 31, 2023	22
Arsenic Pollutant Minimization Program -Annual Arsenic Progress Report #4	January 31, 2024	22
Arsenic Pollutant Minimization Program -Final Arsenic Progress Report and Updated PMP Plan	January 31, 2025	22
Arsenic Pollutant Minimization Program -Annual Arsenic Reports After Permit Expiration	See Permit	22
Arsenic Interim Limits at SP 108 and Outfall 004 -Report on Effluent Discharges	May 31, 2021	22
Arsenic Interim Limits at SP 108 and Outfall 004 -Action Plan	November 30, 2021	22

Arsenic Interim Limits at SP 108 and Outfall 004 -Initiate Actions	May 31, 2022	22
Arsenic Interim Limits at SP 108 and Outfall 004 -Complete Actions	November 30, 2022	22
Total Toxic Organics Management Plan -Submit Updated TTO Plan	February 28, 2021	23
PFOS Limits -Report on Effluent Discharges	May 31, 2021	23
PFOS Limits -Action Plan	November 30, 2021	23
PFOS Limits -Initiate Actions	May 31, 2022	23
PFOS Limits -Complete Actions	November 30, 2022	23
Arsenic Limit at Outfall 001 -Report on Effluent Discharges	May 31, 2021	23
Arsenic Limit at Outfall 001 -Action Plan	November 30, 2021	23
Arsenic Limit at Outfall 001 -Initiate Actions	May 31, 2022	23
Arsenic Limit at Outfall 001 -Complete Actions	November 30, 2022	23
Mercury Limit at Outfall 001 -Report on Effluent Discharges	May 31, 2021	23
Mercury Limit at Outfall 001 -Action Plan	November 30, 2021	23
Mercury Limit at Outfall 001 -Initiate Actions	May 31, 2022	23
Mercury Limit at Outfall 001 -Complete Actions	November 30, 2022	24
Permit Application Submittal -Permit Application Submittal	May 31, 2025	24
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	25

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non-industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:

Northeast Region, 2984 Shawano Avenue, Green Bay, WI 54313-6727